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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/839,914	04/20/2001	John Saarinen	TRW(M)5722	2240

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EXAMINER

WILLIAMS, ERIC M

ART UNIT

PAPER NUMBER

3681

DATE MAILED: 05/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/839,914

Applicant(s)

SAARINEN ET AL.

Examiner

Eric M Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-11 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This detailed action is in response to application serial number 09/839914 titled Hydraulic Power Steering System with Reservoir and method of operating same a filing date of 4-20-2001.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "said transmission fluid pump" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "said transmission fluid pump" and "said power steering pump" in lines 2 and 3 respectively. There is insufficient antecedent basis for these limitations in the claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1,5, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borman in view of Luibrand Patent No. 5,505,276 in further view of Bullard et al. 3,886,814.

Borman (Fig 1) teaches a reservoir (10) with at least one pump (42) connected with the reservoir for pumping fluid between the reservoir and a fluid system (46). Borman discloses in column 1 lines 5-23 and column 2 lines 35-45 the fluid system being used with automotive vehicles such as automatic transmissions, power steering systems and power brake systems whereby a single reservoir (10) may be used for all the systems. Therefore it is inherently understood the fluid system (42) of Borman would draw hydraulic fluid, using the pump (42), to a hydraulic fluid operated automatic transmission for transmitting motive power from an engine of a vehicle to drive wheels of the vehicle and a power steering gear for effecting movement of steerable wheels of the vehicle. However, Borman does not teach a steering gear with a fluid motor. Luibrand (Fig. 1) discloses a power steering system with a fluid motor (24). Therefore, it would have been obvious to one of ordinary skill in the art at the time of this invention to modify Borman such that the single reservoir for a fluid system contains a steering gear with a motor, in view of Luibrand, to assist the output movement of the steering mechanism.

Borman also does not disclose a cooler for cooling the hydraulic fluid with the one pump being operative to pump hydraulic fluid between the reservoir and the cooler. However, Bullard et al. (Fig. 1) discloses a cooler (90) for cooling the hydraulic fluid of

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an engine (16) and transmission system (10) and the cooler contains a transmission pump (98) that pumps the hydraulic fluid between a reservoir (96) the cooler (90), and the transmission (10). Therefore it would have been obvious to one of ordinary skill in the art at the time of this invention to modify Borman's single reservoir for a fluid system such that the system contains a cooler for cooling the hydraulic fluid and a transmission pump being operative to pump the fluid between the reservoir the cooler and the automatic transmission.

5. Claims 2, 3, 6, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borman in view of Luibrand in view of Bullard in further view of Few et al. 6,035,903.

Regarding claims 2 and 9, Borman in view of Luibrand in further view of Bullard sets forth all the limitations of claim 1. Luibrand and Bullard disclose a steering gear pump and a transmission pump respectively, and Luibrand explicitly states in column 1 lines 24-30 a predetermined pressure supplied to the power steering system of at least 40 p.s.i. This implies the system must provide a pressure above 40 p.s.i. Bullard does not explicitly state the pressure the transmission pump supplies to the system, but Few et al. discloses a transmission pump supplying a pressure wherein a pressure of 50 p.s.i. is excessive. This implies the transmission pressure is well below the value of 50 p.s.i., and it is furthermore well understood in the art that pressure supplied to the steering gear is relatively high as compared to the pressure supplied to the transmission. Therefore it would have been obvious to one of ordinary skill in the art at the time of this invention to modify Borman's single reservoir for a fluid system such that

the fluid system employs a transmission fluid pump at a relatively low pressure for the automatic transmission and a power steering pump at a relatively low pressure, in view of Few, for the purpose of lubrication and proper operation of the transmission and power steering systems.

Regarding claim 3, Luibrand (Fig. 1) a plurality of power steering fluid lines (20,21) for interconnecting the power steering pump (12), the reservoir, and the fluid motor (24) and operating the power steering gear. Therefore it would have been obvious to one of ordinary skill in the art at the time of this invention to modify Borman's single reservoir for a fluid system such that a plurality of power steering lines were transmitting fluid between the reservoir, the fluid motor, and the power steering gear, in view of Luibrand, for efficient operation of the power steering system.

Regarding claim 6 and 10, it would have been obvious to one of ordinary skill in the art at the time of this invention to modify Borman's single reservoir for a fluid system such that the transmission pump and power steering pump were connected in line and the transmission pump had a first output line for directing hydraulic fluid at relatively low pressure and the power steering pump had a second output line directing hydraulic fluid at a relatively high pressure, in view of Few, for the purpose of manufacturing a system with pumps that are more accessible for maintenance.

6. Claims 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borman in view of Luibrand in view of Bullard et al in further view of Hayabuchi et al Patent No. 5,547,436.

Borman in view of Luibrand in view of Bullard et al teaches all the limitations of claim 1, but does not disclose a single pump operative to supply a pressure high enough to operate the power steering gear through a first output line, and a second output line operative to supply a pressure to a pressure reducer and a third output line where the pressure reducer supplies a relatively low pressure to the automatic transmission. However, Hayabuchi (Fig. 1) discloses a transmission system with hydraulic lines and a pressure reducer for supplying a relatively low pressure. Therefore it would have been obvious to one of ordinary skill in the art at the time of this invention to modify Borman's single reservoir for a fluid system including a pump such that the pump supplies a relatively low pressure to the steering gear and a relatively high pressure through the pressure reducer, in view of Hayabuchi, for more precise manipulation of the pressure supplied to the transmission.

Allowable Subject Matter

7. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art does not anticipate nor render obvious the invention of a single reservoir for storing the hydraulic fluid that operates an automatic transmission and a power steering system with a filter for filtering the hydraulic fluid and the filter being located in the flow path of both the hydraulic fluid for the automatic transmission and the steering gear.

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Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jang Patent No. 6,139,469 discloses an automatic transmission with a hydraulic circuit and a pressure reducer, Schnelle Patent No. 5,209,317 and Yokota et al. Patent No. 6,04,883 teach power steering systems with reservoirs, pumps and motors, Harper Patent No. 6,066,060, Stine Patent No. 5,678,461, and Droste et al. Patent No. 4,995,971 teach automatic transmission hydraulic systems with pumps and reservoirs, and Dairokuno et al. Patent No. 5,845,756, and Mientus Patent No. 5,845,756 both teach transmission with motors, reservoirs, and coolers. Heller Patent No. 3,822,765 discloses a lubrication system for a transmission.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric M Williams whose telephone number is 703-305-0607. The examiner can normally be reached on 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 703-308-0830.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.



EMW
May 17, 2002



RODNEY H. BONCK
PRIMARY EXAMINER
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